

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 10/029,966
Attorney Docket No. Q67501

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (original): A method for writing predetermined data to a flash memory, the method comprising the steps of:

(a) receiving a request to write the predetermined data to a page to which data has been written;

(b) writing the predetermined data to a log block corresponding to a data block containing the page;

(c) receiving a request to write the predetermined data to the page again; and

(d) writing the predetermined data to an empty free page in the log block.

2. (original): The method of claim 1, wherein the step (b) comprises the step (b11) of writing the predetermined data to an empty free page.

3. (original): The method of claim 1, wherein the step (b) comprises the steps of:

(b21) allocating the log block; and

(b22) writing the predetermined data to an empty page at the same position as the requested page in the data block.

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A. (original): A method for writing predetermined data to a flash memory, the method comprising the steps of:

- (a) receiving a request to write the predetermined data to a page;
- (b) allocating a log block 1-1 corresponding to a first data block containing the page;
- (c) writing the predetermined data to an empty page in the log block 1-1;
- (d) receiving a request to write the predetermined data to the page again; and
- (e) writing the predetermined data to an empty free page in the log block 1-1.

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B. (original): The method of claim A, wherein the step (b) comprises the steps of:
(b1) performing a block merge to create a third data block based on a second data block and a second log block corresponding to the second data block; and

(b2) allocating a free block obtained by performing an erase operation on the second data block as the log block 1-1.

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C. (original): The method of claim B, wherein the step (b1) is performed when a free block to be allocated as the log block 1-1 does not exist.

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D. (original): The method of claim C, wherein the step (b1) is performed when all pages of the existing log block corresponding to the first data block have been used.

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⁹ 8. (original): The method of claim ⁶ 5, wherein the step (b1) comprises the step of (b11) performing a switch merge to change the second log block to the third data block when pages of the second log block are arranged in the same order that pages of the second data block are arranged, and the pages of the second log block correspond one-to-one to the pages of the second data block.

¹⁰ 9. (original): The method of claim ⁶ 5, wherein the step (b1) comprises the step of (b12) performing a copy merge to copy corresponding pages of the second data block to free pages in the second log block and create the third data block when the pages in the second log block are requested to be written only once.

¹¹ 10. (original): The method of claim ⁶ 5, wherein the step (b1) comprises the step of (b13) performing a simple merge to copy the latest pages in the second log block to free pages of a free block to which data has not been written and copy a corresponding page of the second data block to the remaining free pages thereof, thereby creating the third data block.

¹² 11. (original): The method of claim ⁵ 4, wherein the step (e) comprises the steps of:
(e1) allocating a new log block 1-2 if a free page does not exist in the log block 1-1; and
(e2) writing the predetermined data to a free page in the log block 1-2.

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~~12~~. (original): The method of claim ¹²~~11~~, wherein the step (e1) comprises the steps of:

(e11) performing a switch merge to change the log block to a second data block when pages of the log block 1-1 are arranged in the order in which 5 pages of the first data block are arranged and the pages of the log block 1-1 correspond one-to-one to the pages of the first data block, and

(e12) allocating a free block obtained by performing an erase operation on the first data block as the log block 1-2.

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~~13~~. (original): The method of claim ¹²~~11~~, wherein the step (e1) comprises the steps of:

(e21) performing a copy merge to copy corresponding pages in the first data block to a free page in the log block 1-1 when pages in the log block 1-1 are requested to be written only once; and

(e22) allocating a free block obtained by performing an erase operation on the first data block as the log block 1-2.

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~~14~~. (original): The method of claim ¹²~~11~~, wherein the step (e1) comprises the steps of:

(e31) performing a simple merge to copy the latest pages in the log block 1-1 to free pages of a free block and copy a corresponding page of the first data block to the remaining free pages thereof, thereby creating a second data block; and

(e32) allocating a free block obtained by performing an erase operation on the first data block or the log block 1-1 as the log block 1-2.

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~~15~~. (original): The method of claim ¹²~~11~~, wherein the step (e2) comprises the step of (e21) writing the predetermined data to a free page at the same position as the requested page in the data block.

16-38. (canceled)

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~~39~~. (new): The method of claim 1, wherein the data block is configured to store data and the log block is configured to store data which has been modified.

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~~40~~. (new): The method of claim ⁵~~4~~, wherein the first data block is configured to store data and the log block 1-1 is configured to store data which has been modified.